

Mineral Industry Surveys

For information, contact:

Joyce A. Ober, Sulfur Commodity Specialist
U.S. Geological Survey
983 National Center
Reston, VA 20192
Telephone: (703) 648-7717, Fax: (703) 648-7757
E-mail: jobber@usgs.gov

Raymond I. Eldridge III (Data)
Telephone: (703) 648-7793
Fax: (703) 648-7792
E-mail: reldridg@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

SULFUR IN NOVEMBER 2003

During the month, production of recovered elemental sulfur was 754,000 metric tons, according to the U.S. Geological Survey (USGS). November production was 5% higher than October 2003, and almost 3% higher than that of November 2002. Shipments were 7% higher than those of October 2003. Producers' ending stocks for November 2003 were 198,000 tons.

Import and export data for November 2003 were not available at the time of publication and will be published in the Sulfur in

December 2003 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for October 2003 were estimated to be 229,000 tons; exports were 72,000 tons. Imports of sulfuric acid for October 2003 were 104,000 tons; exports were 12,000 tons. Sulfur imports are estimated using reports from the U.S. Census Bureau, data from other published sources, and personal communications with industry experts.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources
	Petroleum ²	Natural gas	Total	
2002:				
January-December	6,750	1,760	8,500	8,490
January-November	6,140	1,590 ^r	7,720 ^r	7,740 ^r
November	579	155	733	747
December	611	168	779	755
2003:				
January	601 ^r	169	770 ^r	766
February	526	148	674	658
March	597	160	758	739
April	625	166	791	807
May	626	141	766	762
June	560 ^r	124	684 ^r	675 ^r
July ^r	598	152	750	756
August	577	141	718	718
September ^p	564 ^r	133 ^r	697	706 ^r
October	564 ^r	148	712	709
November	615	139	754	717
Total	6,450	1,630	8,080	8,070

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes a small quantity from coking operations.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries ²	
	Quantity ^e	Value ³	Quantity	Value ³	Quantity ^e	Value ³
2002:						
January-December	1,950	9,450	430	11,300	2,560	26,800
January-September	1,590 ^r	7,510	356	8,680	2,080 ^r	20,900
October	180	1,240	29	944	247	3,290
November	180	843	29	942	232	2,230
December	180	1,100	45	1,640	252	3,720
2003:						
January	180	1,280	44	2,460	224	3,740
February	170	2,330	45	1,850	215	4,250
March	200	2,870	45	2,130	245	5,660
April	190	2,950	44 ^r	2,380	234	5,230
May	200	4,160	45	2,530	266	7,760
June	180	2,940	44	2,410	241	6,270
July	160	2,440	45	2,180	241 ^r	6,390
August	160	2,040	45	1,940	267	4,820
September	160	2,910	44	2,070	213	6,160
October	160	2,460	49	2,470	229	5,760
Total	1,760	26,400	450	22,400	2,380	56,000

^eEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentalSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2002:									
January-December	615	201	17,900	217	71	3,750	1,060	344	36,400
January-October	519 ^r	159	15,200	159	52	17,400	824	266 ^r	30,800
October	33	11	1,170	9	3	255	47	15	2,110
November	51	17	1,390	28	9	1,010	93	31	3,080
December	45	15	1,310	30	10	548	142	47	2,590
2003:									
January	38	13	1,330	29	9	511	67	22	1,900
February	30	10	1,080	25	8	836	57	19	2,360
March	42	14	1,740	19	6	279	63	21	2,480
April	44	14	1,680	--	--	--	54	18	2,200
May	34	11	1,320	29	10	638	75	25	2,710
June	26	8	963	40	13	1,350	84	27	2,770
July	23	8	1,020	19	6	318	82	27	1,950
August	19	6	980	74	24	751	103	34	2,410
September	22	7	1,150	9	3	382	70	23	2,230
October	35	11	1,520	1	(4)	36	104	34	1,550
Total	313	102	12,800	245	79	5,110	759	250	22,600

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

⁴Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2002:					
January-December	555	40,000	148	49	12,800
January-October	551	45,200	141	46	12,600
October	76	3,450	11	4	1,040
November	60	2,400	9	3	839
December	14	5,300	14	5	1,190
2003:					
January	107	3,440	12	4	1,380
February	63	3,410	16	5	1,150
March	31	2,020	11	3	1,360
April	90	2,910	12	4	1,430
May	41	2,430	22	7	1,610
June	11	1,780	21	7	1,790
July	53	3,520	28	10	2,430
August	57	2,190	27	9	2,060
September	50	2,090	23	7	1,910
October	72	4,360	12	4	1,200
Total	575	28,100	183	60	16,300

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports ^c	Consumption
2002:			
January-December	7,930	2,560	10,500
January-October ^r	5,920 ^r	1,830 ^r	7,750 ^r
October	623	247	870
November	687	232	919
December	741	252	993
2003:			
January	661	224	885
February	595	215	810
March	708	245	953
April	717	234	951
May ^r	721	266	987
June	665	241	906
July	703	241	944
August	661	267	928
September	656	213	869
October	645	229	874
Total	7,440	2,380	9,110

^cEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	November 2003 ^p		October 2003		Total 2003 ²		Year to date 2002 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	18	17	23	24	207	209	215 ^r	217 ^r
Natural gas	2	2	2	2	23	24	25 ^r	25 ^r
Total	20	19	25	27	231	233	240 ^r	241 ^r
PAD 2:								
Petroleum and coke	69	66	67	69	806	798	774 ^r	774
Natural gas	4	4	4	3	47	47	44 ^r	43
Total	73	70	70	72	853	845	818	817
PAD 3: ³								
Petroleum and coke	418	436	363	358	4,170	4,200	4,040 ^r	4,040 ^r
Natural gas	39	38	41	42 ^r	410	410	394 ^r	396 ^r
Total	456	474	404	400 ^r	4,580	4,610	4,440 ^r	4,440 ^r
PAD 4 and 5: ⁴								
Petroleum and coke	111	108	111	109 ^r	1,270	1,240	1,100 ^r	1,100 ^r
Natural gas	95	96	104 ^r	102 ^r	1,150	1,150	1,130 ^r	1,140 ^r
California	83	80	82	84 ^r	989	971	872	870
Total	205	203	215	218 ^r	2,420	2,390	2,230 ^r	2,240 ^r
Grand total	754	766	715 ^r	717 ^r	8,080	8,070	7,720 ^r	7,740 ^r

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revisions to prior months.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2003			2002
	November	October	Year to date	total
Production	9.17 ^p	8.38 ^r	8.83	8.50
Shipments	8.72 ^p	8.35 ^r	8.82	8.49
Exports of sulfur	NA	0.85	0.62	0.56
Imports of sulfur:				
Canada	NA	1.88 ^e	1.92 ^e	1.95
Mexico	NA	0.58	0.49	0.43
Total ²	NA	2.70 ^e	2.60 ^e	2.56
Export of H ₂ SO ₄	NA	0.14	0.20	0.15
Import of H ₂ SO ₄ :				
Canada	NA	0.41	0.34	0.62
Europe	NA	0.01	0.27	0.22
Total ²	NA	1.22	0.83	1.06
Consumption: ³				
Domestic sources	NA	7.59	8.13	7.93
Imports	NA	2.70 ^e	2.60 ^e	2.56
Total	NA	10.29	9.95	10.50
Sulfur export values ⁴	NA	\$61	\$49	\$72
Sulfur import values: ⁴				
Canada	NA	\$15	\$15	\$5
Mexico	NA	\$50	\$50	\$26
Average	NA	\$25	\$24	\$10
H ₂ SO ₄ export values ⁴	NA	\$100	\$89	\$86
H ₂ SO ₄ import values: ⁴				
Canada	NA	\$43	\$41	\$29
Europe	NA	\$36	\$21	\$17
Average	NA	\$15	\$29	\$34

^eEstimated. ^pPreliminary. ^rRevised. NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other countries not listed.

³Because September trade data were not available, September consumption was not determined.

⁴Average value per ton for most recent data available.